

t49\_tdlat\_2 (TMbs-  
dpU9fgkJEwFtxUmkmbamYDGmH9fRPPD)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_pcomps\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tdlat\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tops\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow \\ & (r1\_tarski (k5\_setfam\_1 (u1\_struct\_0 X0) (k1\_tdlat\_2 X0 X1)) ( \\ & k1\_tops\_1 X0 (k5\_setfam\_1 (u1\_struct\_0 X0) X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \Rightarrow ((r1\_tarski X1 X2) \Rightarrow (r1\_tarski (k2\_pre\_topc \\ & X0 X1) (k2\_pre\_topc X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow \\ & (r1\_tarski (k5\_setfam\_1 (u1\_struct\_0 X0) (k1\_pcomps\_1 X0 X1)) \\ & (k2\_pre\_topc X0 (k5\_setfam\_1 (u1\_struct\_0 X0) X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 X0))) \Rightarrow (m1\_subset\_1 (k5\_setfam\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((l1\_pre\_topc\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k1\_tops\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(m1\_subset\_1\ (k1\_tdlat\_2\ X0\ X1)\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \quad (7)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(r1\_tarski\ (k5\_setfam\_1\ (u1\_struct\_0\ X0)\ (k1\_pcomps\_1\ X0\ (k1\_tdlat\_2\ X0\ X1)))\ (k2\_pre\_topc\ X0\ (k1\_tops\_1\ X0\ (k5\_setfam\_1\ (u1\_struct\_0\ X0)\ X1)))))$$